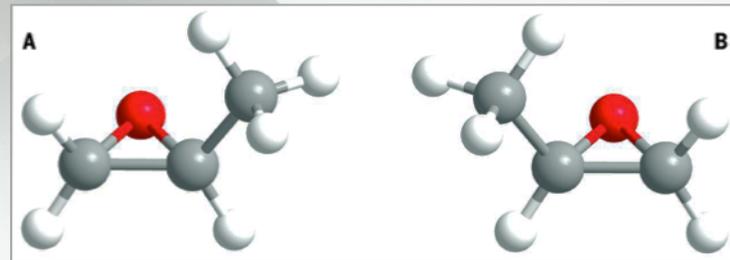
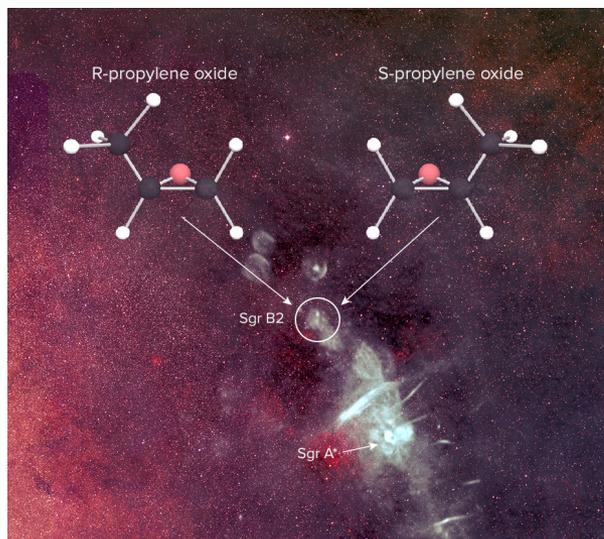


# Chiral Molecule Detected in Interstellar Space

**BACKGROUND:** Like a pair of human hands, certain organic molecules have mirror-image versions of themselves, a chemical property known as chirality. These so-called "handed" molecules are essential for biology and have intriguingly been found in meteorites on Earth and comets in our Solar System. None, however, has been detected in the vast reaches of interstellar space, until now.



**THE RESEARCH:** Data was acquired from the Prebiotic Interstellar Molecular Survey (PRIMOS) project at the Green Bank Telescope. The molecule, propylene oxide ( $\text{CH}_3\text{CHOCH}_2$ ), was found near the center of our Galaxy in an enormous star-forming cloud of dust and gas known as Sagittarius B2 (Sgr B2). Additional supporting observations were taken with the Parkes radio telescope in Australia.



**TAKE-HOME:** Propylene oxide is among the most complex and structurally intricate molecules detected so far in space. This is the first molecule detected in interstellar space that has the property of chirality, making it a pioneering leap forward in our understanding of how prebiotic molecules are made in the Universe and the effects they may have on the origins of life. Detecting this molecule opens the door for further experiments determining how and where molecular handedness emerges and why Life on Earth chooses one form to be more abundant than the other.